

**Notice of Allowability**

Application No.

10/099,664

Examiner

Brian J. Sines

Applicant(s)

GABRIEL ET AL.

Art Unit

1743

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the response filed 7/27/2006.
2. ☒ The allowed claim(s) is/are 22-38 and 47-55.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All   b) ☐ Some\*   c) ☐ None   of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Arguments***

Applicant's arguments, filed 7/27/2006, with respect to the double patenting rejection have been fully considered and are persuasive. This rejection has been withdrawn.

### ***Allowable Subject Matter***

Claims 22 – 38 and 47 – 55 are allowed. Nonelected claims 1 – 12, 39 – 46 and 56 – 65 were canceled by the Examiner.

The following is an examiner's statement of reasons for allowance:

Regarding claim 22, the cited prior art neither teach nor fairly suggest a method of fabricating an electronic system for selectively detecting and identifying a predetermined number of chemical species, comprising the steps of: (a) providing an array of nanostructure sensing devices, each nanostructure sensing device comprising at least one nanostructure and at least two contact electrodes, wherein the at least one nanostructure provides electrical coupling between the at least two contact electrodes; (b) modifying selectivity for sensing of the nanostructures within at least a portion of the array of nanostructure sensing devices, such that at least one nanostructure sensing device produces a measurably changed signal when exposed to the chemical species; (c) modifying at least two nanostructure sensing devices to have the same selectivity for sensing; (d) providing shielding impermeable to at least the plurality of chemical species to at least one of the at least two nanostructure sensing devices; and (e) allowing at least one of the at least two nanostructure sensing devices to be at least partially exposed to at least the plurality of chemical species.

Regarding claim 47, the cited prior art neither teach nor fairly suggest a method of fabricating an electronic system for selectively detecting and identifying a predetermined number of chemical species, comprising the steps of: (a) providing an array of nanostructure sensing devices, each nanostructure sensing device comprising at least one nanostructure and at least two contact electrodes, wherein the at least one nanostructure provides electrical coupling between the at least two contact electrodes; (b) submerging at least a portion of nanostructure sensing devices in the array of nanostructure sensing devices in a reactant; (c) applying a characteristic voltage across the at least two contact electrodes in each of the nanostructure sensing devices in at least the portion of nanostructure sensing devices after step (b), the characteristic voltage causing a current flow through the nanostructures, and continuing to apply the characteristic voltage until the current flow decreases sharply, thereby introducing point defects into the nanostructures in a self-limiting reaction; and (d) rinsing the reactant from at least the portion of the array of nanostructure sensing devices after the self-limiting reaction ends.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

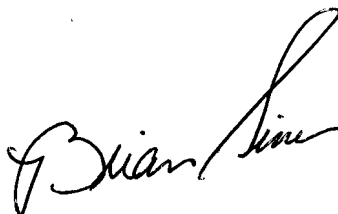
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***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian J. Sines whose telephone number is (571) 272-1263. The examiner can normally be reached on Monday - Friday (11 AM - 8 PM EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill A. Warden can be reached on (571) 272-1267. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

A handwritten signature in black ink, appearing to read "Brian Sines", is positioned below the main text block.